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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,213	02/17/2004	Yoshihisa Takatsu	JP920020219US1	9485
7590 H. Daniel Schnurmann Intellectual Property Law IBM Corporation, Dept. 18G Building 300-482 2070 Route 52 Hopewell Junction, NY 12533			EXAMINER PHAN, MAN U	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 07/16/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/780,213	TAKATSU ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Man Phan	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***DETAILED ACTION***

1. The application of Takatsu et al. for the "Communication control apparatus and method for searching an Internet Protocol address" filed 02/17/2004 has been examined. This application claims foreign priority based on the application 2003/121263 filed April 25, 2003 in Japan. Receipt is acknowledged of papers submitted under 35 U.S.C 119(a) – (d), which papers have been placed of record in the file. Claims 1-22 are pending in the application.

2. The applicant should use this period for response to thoroughly and very closely proof read and review the whole of the application for correct correlation between reference numerals in the textual portion of the Specification and Drawings along with any minor spelling errors, general typographical errors, accuracy, assurance of proper use for Trademarks <sup>TM</sup>, and other legal symbols @, where required, and clarity of meaning in the Specification, Drawings, and specifically the claims (i.e., provide proper antecedent basis for "the" and "said" within each claim). Minor typographical errors could render a Patent unenforceable and so the applicant is strongly encouraged to aid in this endeavor.

***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means"

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and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The Abstract of the disclosure is objected to because it contains the legal phraseology "means" throughout the Abstract. Correction is required.

### *Claim Objections*

4. Claim 9 is objected to because of the following informalities: "the currently extracted address" (page 50, line 1) should read –the currently extracted destination address.-- for the consistency.

Claim 10 is objected to because of the following informalities: "the currently extracted address" (page 52, lines 1, 5, 12 and page 53, lines 18, 22 and page 54, line 6) should read –the currently extracted destination address.-- for the consistency. Appropriate correction is required.

Claim 10 is objected to because of the following informalities: On line 9, the "MSB" and "LSB" should be spelled out the first time. Appropriate correction is required.

Claim 16 is objected to because of the following informalities: "the currently extracted address" (page 56, line 23) should read –the currently extracted destination address.-- for the consistency.

Claim 17 is objected to because of the following informalities: “the currently extracted address” (page 57, line 11) should read –the currently extracted destination address.-- for the consistency.

Claim 18 is objected to because of the following informalities: “the currently extracted address” (page 59, lines 1, 7, page 61, line 2) should read –the currently extracted destination address.-- for the consistency.

***Claim Rejections - 35 USC ' 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1 recites limitations "the longest mask length" in line 11, and “the sort order” in line 17.

Claim 2 recites limitations “the inside-node matching entry” (page 47, line 4) and “the node-by-node search process” (page 47, line 13).

Claim 8 recites limitations “the packet received” (page 49, line 4), “the bit string” (page 49, line 8).

Claim 9 recites limitations “the upper continuous bit string” (page 49, line 16).

Claim 10 recites limitations “the next transfer route” (page 50, line 5).

Claim 22 recites limitations “the upper side bit string” (page 62, line 10), “the inside-node matching entry” (page 62, line 23) and “the node-by-node search process” (page 63, line 1). There is insufficient antecedent basis for these limitations in the claims.

*Allowable Subject Matter*

7. Claims 1-22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

8. The following is an examiner's statement of reasons for the indication of allowable subject matter: The prior art of record fails to disclose or suggest a communication control apparatus, comprising: a storage device for storing search information to determine a subsequent transfer route for a packet received by way of its destination address; and a route search device to search for a transfer route for said packet received based on said search information, wherein said search information is associated with a tree structure, each node in said tree structure having at least one entry, a mask prefix associated with said at least one entry, wherein each entry includes information on the number of bits of said mask prefix associated therewith, and a sort key, and wherein the number of bits of said sort key is set to be greater than or equal to the longest mask length amongst the mask lengths of all said mask prefixes; a bit string divided into an upper side bit string field and a lower side bit string field, wherein the upper side bit string field of each of said sort keys is to match said mask prefix associated with an entry having said sort key wherein entries are assigned to predetermined nodes of said tree structure based on the sort order of their sort keys; each node having an entry list in which multiple entries included therein are sorted based on their sort keys; and each node except leaf nodes are linked via each branch to relate each entry in the entry list of said node to each node at the next lower hierarchy, as specifically recited in claims.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Andreev et al. (US#6,565,211) is cited to show the fast flexible search engine for longest prefix match.

The Voelkel et al. (US#6,505,270) is cited to show the content addressable memory having longest prefix matching function.

The Tokumo et al. (US#2004/0030694) is cited to show the search information transmitting apparatus.

The Akahane et al. (US#6,778,532) is cited to show the packet relaying apparatus and high speed multicast system.

The Nishihara (US#6,970,478) is cited to show the packet transfer method and apparatus, and packet communication system.

The Katoh et al. (US#5,949,757) is cited to show the packet flow monitor and control system.

The Mackiewich et al. (US#2004/0223501) is cited to show the method and apparatus for routing data frames.

The Broerman (US#7,047,313) is cited to show the method for redirecting packetized data associated with a destination address in a communication protocol layer to a different destination address in a different protocol layer.

10. Any inquiry concerning this communication or earlier communications from the

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examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

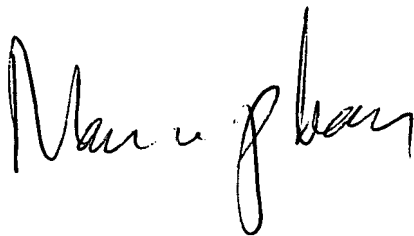
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

Mphan

07/12/2007.

A handwritten signature in black ink, appearing to read 'Man U. Phan', is written in a cursive style.

**MAN U. PHAN  
PRIMARY EXAMINER**